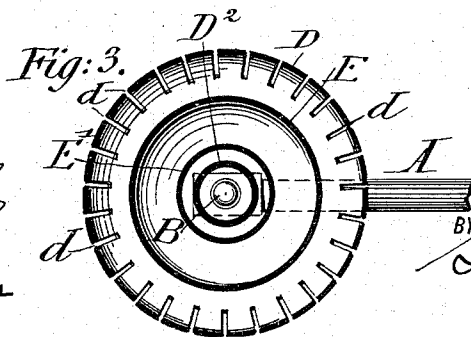
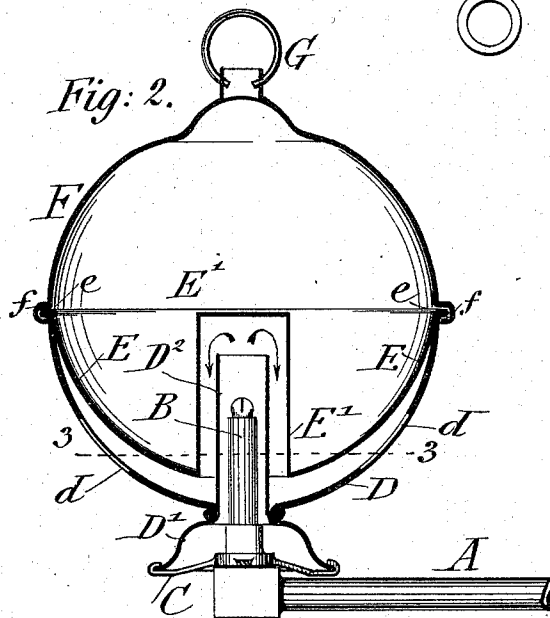
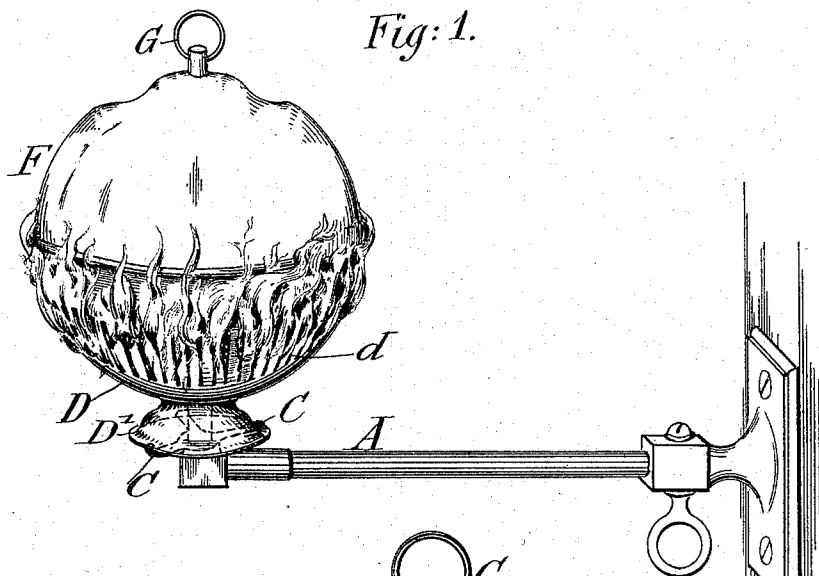


(No Model.)

J. W. CARTER.
GAS HEATER.

No. 573,205.

Patented Dec. 15, 1896.



WITNESSES:

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JOHN W. CARTER, OF BROOKLYN, NEW YORK.

GAS-HEATER.

SPECIFICATION forming part of Letters Patent No. 573,205, dated December 15, 1896.

Application filed June 18, 1896. Serial No. 595,963. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. CARTER, a citizen of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Gas-Heaters, of which the following is a specification:

This invention relates to an improved gas heating device of that class which is applied to the burner of a gas-bracket and which is based on the principle of the "Bunsen burner," so that it burns with an exterior blue heating-flame, and which can be lighted as soon as the gas is turned on and be turned off at any time without causing any smell by escaping gas, and in which the gas-and-air mixture is supplied to the burner-openings, and the so-called "firing back" entirely prevented, and a perfectly safe, convenient, and powerful gas-heater for rooms obtained.

The invention consists of a gas heating-stove applied to gas-burners, comprising an interior shell provided with a cylindrical central portion, a hemispherical upper shell provided with a suitable handle, and an exterior shell provided with a central flue open at the upper and lower ends and with openings for the flame, and a suitable tripod for supporting the heating device on the gas-burner, as will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a perspective view of my improved gas heating-stove shown as applied to a gas-bracket. Fig. 2 is a vertical central section of the same, drawn on a somewhat larger scale. Fig. 3 is a detail horizontal section on line 3 3, Fig. 2.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents an ordinary gas bracket or fixture, and B the burner of the same. On a suitable tripod C, which is attached to the pedestal of the burner, is supported my improved gas heating-stove. My improved gas heating-stove consists, preferably, of three main portions, namely, an exterior hemispherical lower shell D, having a small flaring base D', an interior smaller shell E, supported by the latter and which is provided with a central cylindrical portion E', which is open at the lower end and closed at

the upper end, said closed end serving as a deflector for the gas-and-air mixture supplied to said central cylindrical portion, and an exterior hemispherical upper shell F. The upper part F of the exterior shell is spun of suitable sheet metal and provided with a handle G at its upper end, so that the entire device can be readily lifted off from the gas-burner or placed in position on the same. The inner shell E is sprung by a circumferential flange *e* at its upper edge into the circumferential bead *f*, formed at the bottom of the upper shell F, the circumferential bead being tightly closed in a suitable manner, so that the inner shell E and the outer lower shell are firmly retained in position by the outer upper shell F.

The base D' is provided with a central flue D², arranged concentric to the burner, and the central cylindrical portion E', so that the gas emitted from the burner-tip is mixed in its upward passage with the air drawn in through the flue D² from the outside and then passed around the upper edge of the flue D² into the annular space between the interior flue of the outer shell and the cylindrical portion of the inner shell E to the space between the lower part of the inner and outer shells D and E until the gas-and-air mixture is emitted through openings *d* in the middle part of the outer lower shell D, as shown clearly in Fig. 1. The outer shell may be sprung tightly over the flue D² and fit snugly against the base D', or it may be rigidly attached to the flue. As soon as the escaping gas is lighted the air required to be mixed with the gas is readily drawn in, so that the escaping gas-and-air mixture burns with the blue heating-flame of the well-known Bunsen burner, forming thus a number of jets around the outer burner, by which one continuous sheet of blue heating-flame is produced.

By my improved construction the dangerous accumulation of the explosive gas-and-air mixture is prevented and the mixture conducted as quickly as possible to the jet-openings *d*, so that the heater can be readily lighted as soon as the gas is turned on, while there is no gas in the heating device when the gas is turned off. By the arrangement of the cylindrical portion E' of the shell E, which acts in the nature of a closed deflector,

the gas-and-air mixture is compelled to pass first in outward and then in downward direction through the channel formed by the inner flue D² of the outer shell and cylindrical portion E' of the inner shell, so that the gas-and-air mixture is heated up in its course to the jet-openings d and the perfect combustion of the gas-and-air mixture in connection with the exterior air thereby obtained. As the entire surface of the gas-heater is heated, contact with the air is obtained, so that a very effective gas heating device is furnished.

My improved gas heating device can be readily applied to any gas-bracket without danger, producing a very efficient and economical gas-stove for heating ordinary rooms. No so-called "back-firing" or "explosions" are produced in my improved heater, as the gas and air are thoroughly mixed in their course from the burner-tip to the jet-openings in the outer shell and are thoroughly mixed and prevented from passing to the interior of the body of the heater, so that any inexperienced person can readily and without danger use the heater.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A gas heating-stove consisting of an outer cup-shaped shell provided with an ascending flue extending upward from its bottom and open at both ends and adapted to receive a gas-pipe, an inner cup-shaped shell disposed

in said outer shell and united therewith at its upper edge, said inner shell being provided with a descending flue closed at its upper end and surrounding said ascending flue forming a mixing-space between them, a shallow mixing-chamber being formed at the lower part of the stove between said shells into which chamber said descending flue opens, said outer shell being provided with jet-openings.

2. A gas heating-stove consisting of an outer cup-shaped shell provided with an ascending flue extending upward from its bottom and open at both ends, and adapted to receive a gas-pipe, an inner cup-shaped shell disposed in said outer shell and united therewith at its upper edge, said inner shell being provided with a descending flue closed at its upper end and surrounding said ascending flue forming a mixing-space between them, a shallow mixing-chamber being formed at the lower part of the stove between said shells into which chamber said descending flue opens, said outer shell being provided with jet-openings, and a dome-shaped top fitting tightly over said cup-shaped shells.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JOHN W. CARTER.

Witnesses:

PAUL GOEPEL,
GEO. W. JAEKEL.